

(12) **United States Patent**
Trieste, Jr.

(10) **Patent No.:** **US 11,028,940 B2**
(45) **Date of Patent:** **Jun. 8, 2021**

(54) **UNDERGROUND VALVE MONITORING
DEVICE AND METHOD OF OPERATION**

(56) **References Cited**

U.S. PATENT DOCUMENTS

(71) Applicant: **Consolidated Edison Company of
New York, Inc.**, New York, NY (US)

1,004,436 A * 9/1911 Kehr E03B 9/10
137/366

(72) Inventor: **Richard J. Trieste, Jr.**, Staten Island,
NY (US)

3,355,728 A 11/1967 Smith
3,797,286 A * 3/1974 Saporito F16K 35/10
70/169

(73) Assignee: **CONSOLIDATED EDISON
COMPANY OF NEW YORK, INC.**,
New York, NY (US)

4,036,249 A * 7/1977 Perry, Sr. E03F 1/002
137/367

5,555,998 A * 9/1996 Coppola E03B 9/10
137/371

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 63 days.

6,926,024 B2 * 8/2005 McEnerney E03B 9/10
137/15.08

8,082,945 B1 12/2011 White et al.

9,879,812 B2 1/2018 Roell

2006/0260688 A1 * 11/2006 Green E03B 9/10
137/371

(21) Appl. No.: **16/365,732**

2009/0145917 A1 6/2009 Wojcik

2017/0039517 A1 * 2/2017 Amann H04W 4/023

2017/0232285 A1 * 8/2017 Magee A62C 35/68
137/554

(22) Filed: **Mar. 27, 2019**

* cited by examiner

(65) **Prior Publication Data**

US 2019/0301639 A1 Oct. 3, 2019

Primary Examiner — Angelisa L. Hicks

(74) *Attorney, Agent, or Firm* — Cantor Colburn LLP

Related U.S. Application Data

(60) Provisional application No. 62/651,468, filed on Apr.
2, 2018.

(51) **Int. Cl.**
F16K 37/00 (2006.01)

(52) **U.S. Cl.**
CPC **F16K 37/0041** (2013.01)

(58) **Field of Classification Search**
CPC F16K 37/0041; G05D 7/06
USPC 137/554
See application file for complete search history.

(57) **ABSTRACT**

A system and method for monitoring an underground valve is provided. The system includes a valve having an actuator operable to open and close the valve. The system includes a first housing having a recess, the recess being sized to fit at least partially over the actuator. A second housing is removably coupled to the first housing, the second housing having a hollow interior disposed to have an open end enclosed by the first housing, the second housing further having a handle feature opposite the open end. A sensor is disposed in the hollow interior, the sensor generating a first signal in operation in response to a movement of the second housing.

25 Claims, 5 Drawing Sheets

